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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,155	07/11/2001	Chul-Han Bae	P56432	8793

7590 10/02/2003
Robert E. Bushnell
Suite 300
1522 K. Street, N.W.
Washington, DC 20005

EXAMINER

COLON, GERMAN

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,155

Applicant(s)

BAE ET AL.

Examiner

German Colón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8,9,11 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,10 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. The Amendment, filed on July 22, 2003, has been entered and acknowledged by the Examiner.

Specification

The disclosure is objected to because of the following informalities:

2. On Page 13, line 11, a reference to "dummy bridges 83' " is made. However, in Fig. 9, such numeral represents real bridges on the dummy bridge region.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (US 5,523,647) in view of Inoue et al. (US 2001/0020817).

Regarding claim 1, Kawamura discloses a tension mask frame assembly of a color CRT, comprising:

a tension mask **8** including a plurality of parallel strips **8e** spaced apart at predetermined intervals from each other and a plurality of real bridges **8f** connecting adjacent strips to each other to form slots through which electron beam pass;

a frame (see Fig. 2) for supporting said tension mask accommodating a tensile force applied to said tension mask in the direction of the strips (see Col. 2, line 56); and

at least one damper (see Fig. 2) installed on the frame and contacting the strips of the tension mask.

Kawamura is silent regarding the limitation of “the number of real bridges decreasing in a direction from the center portion of said mask to the peripheral portion of said tension mask”. However, in the same field of endeavor, Inoue discloses a shadow mask where the number of real bridges decreases from the center portion of said mask to the peripheral portion (see Figs. 1, 6, 7 and 9) in order to avoid deformation due to external shock during a manufacturing process, during transportation or due to heating during operation, thus diminishing a lowering of color reproducibility and a lowering of picture quality (see paragraphs [0015], [0021] and [0022]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Inoue’s teachings of reducing the number of real bridges from a central portion of the mask to a peripheral portion to avoid deformation due to external shock during a manufacturing process, during transportation or due to heating during operation, thus diminishing a lowering of color reproducibility and a lowering of picture quality.

Regarding claim 2, Kawamura discloses at least one damping wire having both ends secure to the frame, contacting each of said strips (see Fig. 2).

Referring to claim 15, Kawamura-Inoue discloses the number of real bridges decreasing in an X-direction, perpendicular to the length of the strips (see '817, Figs. 1, 6, 7 and 9).

5. Claims 5, 6, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura-Inoue as applied to claim 1 above, and further in view of Ohmae (US 6,388,370).

Regarding claim 5, Kawamura-Inoue discloses the claimed invention except for the limitation of "a plurality of dummy bridges between two real bridges". However, in the same field of endeavor, Ohmae discloses a shadow mask with dummy bridges between two real bridges with the purpose of reducing the doming effect and suppressing the occurrence of moiré stripes, improving the image quality (see Col. 2, lines 30-34). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide dummy bridges between two real bridges in order to reduce the doming effect and suppressing the occurrence of moiré stripes, improving the image quality.

Referring to claim 6, Kawamura discloses at least one damping wire having both ends secure to the frame, contacting each of said strips (see Fig. 2).

Referring to claim 8, Kawamura-Inoue-Ohmae discloses a tension mask with a dummy bridge region including a plurality of dummy bridges extending from adjacent strips, not contacting said adjacent strips.

Referring to claim 9, Kawamura discloses at least one damping wire having both ends secure to the frame, contacting each of said strips (see Fig. 2).

Regarding claim 11, Kawamura-Inoue-Ohmae discloses the strips having the dummy bride region comprising real bridges.

Allowable Subject Matter

6. Claims 16-20 and 21-26 are allowed.
7. Claims 3, 4, 7, 10 and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3, 4, 7 and 10, claims 3, 4, 7 and 10 are allowable for the reasons stated in the Paper #4, mailed April 25, 2003.

Regarding claims 12-14, Applicant's arguments on Paper #5, Page 18, Part IV-B, Paragraph 5, were persuasive.

Referring to claims 16-20 and 21-26, Applicant's arguments on Paper #5, Page 19, Part IV-B, Paragraph 6, lines 2-7; and Paragraph 8, lines 4-8, were persuasive.

Response to Arguments

9. Applicant's arguments filed July 22, 2003, with respect to the specification and claims 1, 2, 5, 6, 8, 9, 11 and 15, have been fully considered but they are not persuasive.
 - i. Applicant argues (see Paper #5, Page 10, Part 1, Paragraph 2) that Fig. 9 discloses reference number 83' as a dummy bridge, which is in agreement with paragraph [0055] of the specification.

The Examiner notes that in Fig. 9, reference 83' is related to a real bridge in a dummy bridge region 88, and not to a dummy bridge. Further, paragraph [0054], lines 5-7, discloses a dummy bridge region 88, and a dummy bridge 87 made up of protrusions 87a and 87a'.

ii. Applicant argues that Kawamura et al. (US 5,523,647) and Inoue et al (US 2001/0020817) should not be combined because decreasing the number of real bridges is taught away by Kawamura, as evidenced in Col. 5, lines 28-30.

Col. 5, lines 28-30 discloses a way of carrying out Kawamura's invention with a particular bridge interval, and the combination with Inoue is not taught away. As Applicant stated in Part IV-A, Page 16, lines 2-5, "a reference may be said to teach away when a person of ordinary skill, upon reading a reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took". The Examiner notes that being silent regarding a limitation does not necessarily mean that the reference teaches away from that feature.

Kawamura discloses the claimed invention except for the limitation of "the number of real bridges decreasing in a direction from the center portion of the mask to a peripheral portion of said mask". However, Inoue provides a motivation to reduce the number of real bridges from a center portion of the mask to a peripheral portion. One of ordinary skill in the art would entertain the idea of reducing the number of real bridges in Kawamura in order to avoid deformation due to external shock during a manufacturing process, during transportation or due to heating during operation, thus diminishing a lowering of color reproducibility and a lowering of picture quality. The Examiner notes that the references should not be considered by themselves but as the combination Kawamura-Inoue.

iii. Applicant argues that the specification of Kawamura is silent as to whether the damping wire contacts "each one of the strips".

However, Fig. 2 of Kawamura discloses a damping wire contacting the strips of the mask. Further, the Examiner notes that the drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art, whether it is explained or not in the specification. See MPEP 2125.

iv. Applicant argues that Kawamura-Inoue teaches away from combining with Ohmae (US 6,388,370) because the strips of Kawamura are devoid of dummy bridges.

The Examiner notes that Kawamura and Inoue do not teach away from providing dummy bridges only because they are silent regarding that limitation (see item # ii). Further, Ohmae discloses a motivation to provide dummy bridges in the tension mask of Kawamura-Inoue and one of ordinary skill in the art would entertain the idea of providing said dummy bridges in order to reduce the doming effect and suppressing the occurrence of moiré stripes, improving the image quality.

For the reasons stated above the objection of the specification and the rejection of claims 1, 2, 5, 6, 8, 9, 11 and 15 is deemed proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

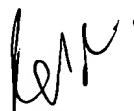
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gc



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800